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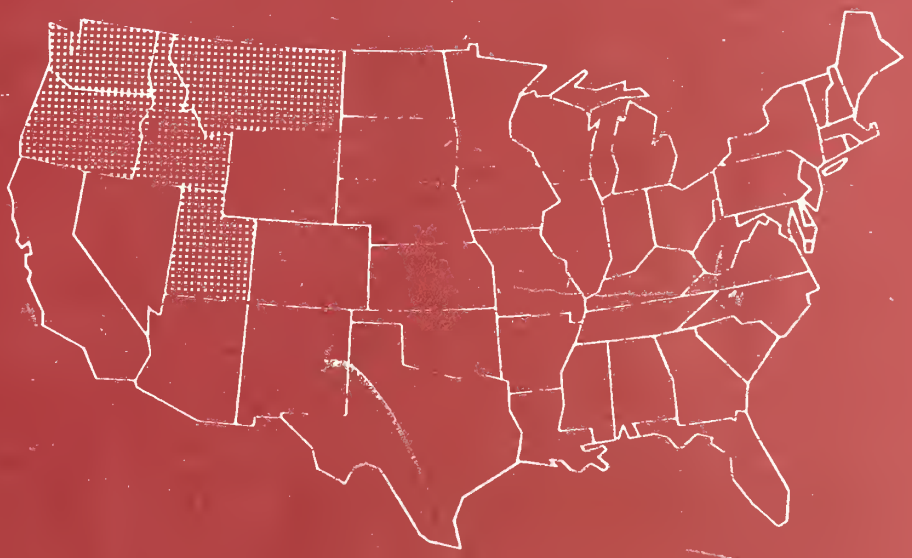
SELECTED U.S. CROP BUDGETS
Yields, Inputs, and Variable Costs



Volume IV
Northwest Region

U.S. DEPARTMENT OF AGRICULTURE ECONOMIC RESEARCH SERVICE

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Although these people and institutions share credit for developing the data base, they do not, of course, share responsibility for interpretation of the data in these budgets.

CONTENTS

	Page
Introduction	1
Production Areas	2
Cost and Yield Assumptions	4
Costs Included	4
Power and Equipment	5
Insurance	5
Miscellaneous and Supplies	5
Interest Charge	5
Grain Storage	5
Harvest Costs	5
Prices and Yields	5
Enterprise Budgets	6
Wheat	6
Barley	6
Other Crops	6
Summary Tables of Production and Variable Costs	8
Budget Tables	
Winter Wheat	12
Durum Wheat	21
Spring Wheat	23
Barley	27
Flax	37
Oats	39
Rye	41
Peas	42
Counties by APAT Production Areas, Great Plains Region	43

SELECTED U.S. CROP BUDGETS
Yields, Inputs, and Variable Costs
Volume IV.--Northwest Region

by

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INTRODUCTION

This report is one of a set presenting estimates of variable costs of producing major crops in different regions of the United States. Regions, in addition to the Northwest, include the Southeast, North Central, Great Plains, South Central, and Southwest (fig. 1).

These budgets were developed by the Farm Production Economics Division of the Economic Research Service specifically for use in its Aggregate Production Analysis System (APAS).1/ Similar assumptions and methodology were used in estimating the data in all six regions. Consequently, the budgets provide comparable estimates of crop yields and variable production costs both within and among the major crop-producing areas of the United States.

These reports are primarily for the use of other analysts and researchers. The budgets include only variable costs and are not intended to represent total production costs. Input items in the budgets are expressed in both physical and monetary terms. Thus, when appropriate, physical levels, price levels, or both can be adjusted to reflect up-to-date information. The budgets are a key data input to APAS and are adjusted as new information or circumstances require.

Geographic coverage, assumptions, and definitions are detailed in subsequent sections.

1/ This system is designed to provide estimates of response in aggregate production and resource use to changes in costs, prices, resource availabilities, and Government programs. For a description and analysis of this system and its organization see: W. Neill Schaller. "A National Model of Agricultural Production Response." Agr. Econ. Res. 20(2), Apr. 1968; and Jerry A. Sharples and W. Neill Schaller. "Predicting Short-Run Aggregate Adjustment to Policy Alternatives." Amer. Jour. Agr. Econ. 50(5), Dec. 1968.

PRODUCTION AREAS

The United States has been divided into seven regions for use in APAS, as shown in figure 1. This report focuses on the Northwest region wich includes the States of Oregon, Washington, Idaho, Montana, and Utah. Within this region, eight locations (study areas) having similar cropping patterns, tillage practices, soil type, yields, and climatic conditions are delineated (fig. 1). The two irrigated study areas in southern Idaho are not shown in figure 1 because they are relatively small in size, overlap county boundaries, and therefore are difficult to depict on the map. Utah is shown within the Northwest region in figure 1, but, as yet, no study areas have been delineated within its boundaries.

A broad range of climate and topography are found from area to area within the region and even within areas in the region. Precipitation ranges from a low of about 10 inches in parts of central Washington to a high of about 21 inches in the wheat-pea area of Idaho and Washington and on the eastern and western edges of the Columbia Basin in Oregon. The growing season varies from about 115 frost-free days in northeast Montana to about 160-170 frost-free days in Oregon and central Washington. The topography ranges from gently rolling to relatively steep hillsides which are predominantly located in the wheat-pea area of Washington and Idaho. In this particular area, special machinery is necessary to farm the steep hills.

With the exception of the wheat-pea area of Idaho and Washington, practically all dryland farm operators use a crop-fallow rotation. Under this system, half the land is cropped and half is summer-fallowed each year to conserve moisture and to control weeds. In the wheat-pea area, farmers follow a 4- to 5-year crop rotation where the land is summer-fallowed once during this period. A typical crop sequence in this area is wheat, dry peas, barley, and summer fallow.

In the dryland areas of the region, wheat is the major cash crop, and barley is the primary alternative to wheat. Dry peas are also important in the wheat-pea area. Some of the minor dryland crops in the region are oats, rye, flax, corn, and safflower. Flax and safflower are grown mainly in areas Y and Z in Montana.

The two irrigated areas in southern Idaho are included in this report because they produce enough wheat and barley to contribute significantly to the State's total production. In these areas, wheat and barley are not necessarily the predominant cash crops, but are raised in rotation with such crops as sugarbeets, potatoes, and alfalfa.

In Montana, hard red winter wheat dominates production in all areas except the northeast, where hard red spring wheat prevails. Soft white winter wheat is the major variety produced in Idaho, Oregon, and Washington.

Barley, the major alternative to wheat, is usually sold as livestock feed. In many areas, malting varieties are seeded, but because of unfavorable climatic conditions, they do not always meet malting standards.

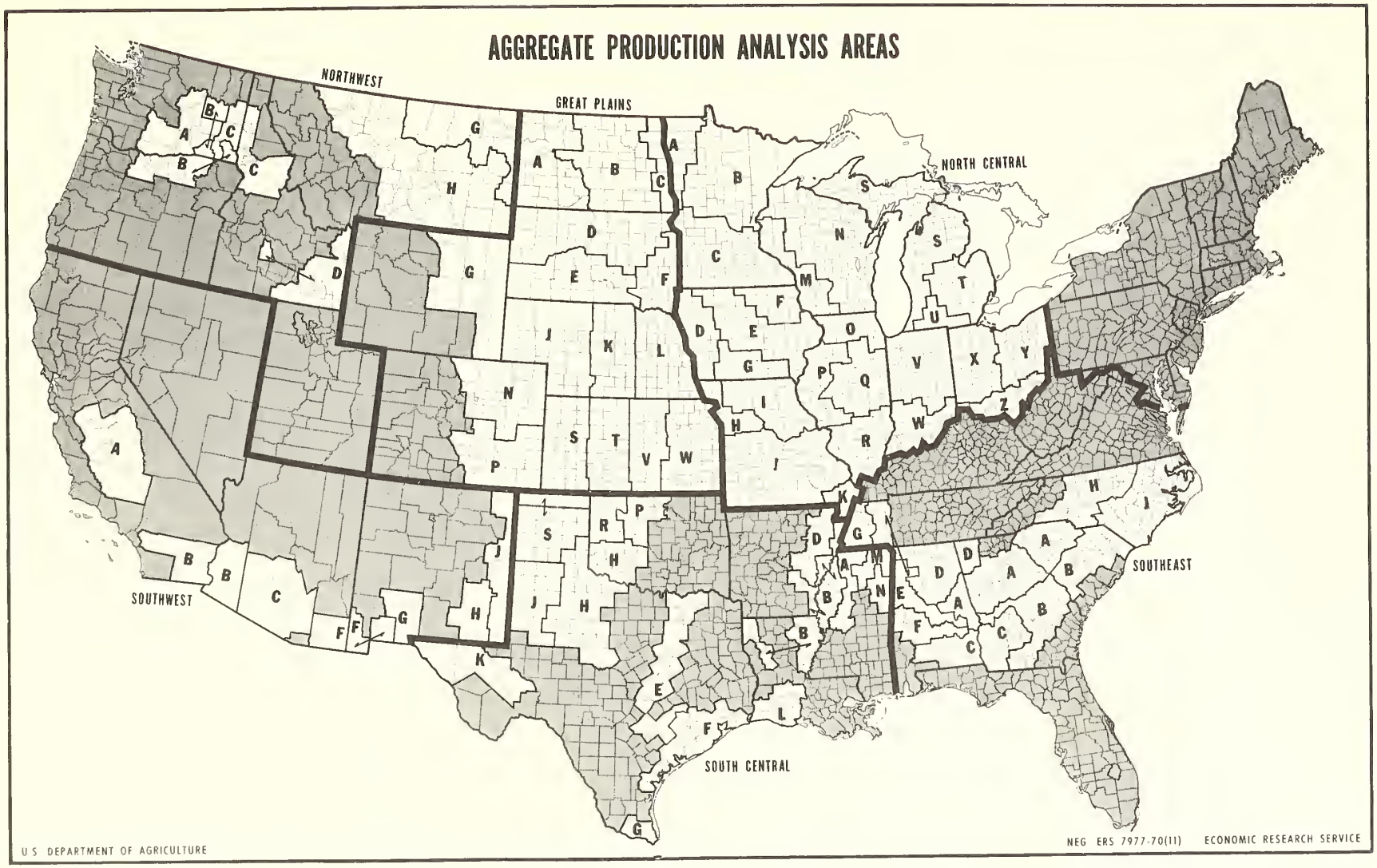
AGGREGATE PRODUCTION ANALYSIS AREAS
NORTHWEST
GREAT PLAINS
NORTH CENTRAL
SOUTHWEST
SOUTHEAST
SOUTH CENTRAL
U.S. DEPARTMENT OF AGRICULTURE
NEG ERS 7977-70(11) ECONOMIC RESEARCH SERVICE

Figure 1

COST AND YIELD ASSUMPTIONS

The data presented in this report were obtained from many sources. The major source was the W-54 regional research project, "Appraisal of Opportunities for Adjusting Farming to Prospective Markets." Where necessary, these data were updated and revised through farm surveys, secondary statistical information, and consultation with informed individuals in an attempt to reflect 1970 conditions. The historical yields published by the Statistical Reporting Service, U.S. Department of Agriculture, were the major guide in developing the 1970 estimated yields. These data were developed for each designated study area within the region.

The budgets are an attempt to reflect average costs incurred on average or slightly above average size farms under average management in the various areas. Thus, there is a high probability that no individual farm in an area would realize the same costs as those shown in the enterprise budget.

A major effort was made to standardize enterprise budgets among areas; however, budgets in some areas include cost items that are not found in others. This disparity resulted from the diversity of information sources. For example, some budgets included a miscellaneous expense item. Since this item was rather minor in comparison with total costs, it was left in those budgets that initially included it. Disparities among areas due to budget items are rather small.

All budgets with titles indicating a crop was raised after summer fallow include the cost of summer fallow (tables 5-35). Those that show one crop raised after another crop, and crops raised on irrigated land only, include the costs from seedbed preparation through harvesting.

Costs Included

The cost items included in the budgets are intended to be guides for shortrun (1-year-ahead) production decisions. Thus, overhead and fixed costs are not included in the budgets. Specifically, depreciation, insurance, interest and taxes on equipment, interest and taxes on land, and farm overhead expenses are not included. Such costs may be considered fixed during each cropping year and do not affect the choice of crops. On the other hand, variable costs (those included in the budgets) are tied directly to specific crops or enterprises and do enter into annual decisions.

Labor costs do not conform to either of the above categories. Operator labor is normally considered a fixed cost, while some hired labor is seasonal and varies directly with the acreages of specific crops. However, in this report there is no differentiation between operator labor and hired labor. All labor shown is valued at the 1970 projected composite wage rate for hired farm labor (based on data reported by the Statistical Reporting Service) and represents all labor required for the crop with the exception of custom operation.

Seed used is the amount normally required to seed an acre of land plus necessary reseeding. Seed prices reflect cleaning, treating, and farm value where homegrown seed is used, or prices paid for seed grain where seed is usually purchased from commercial sources.

Fertilizer applied is the amount normally used to produce the indicated crop. Fertilizer terminology is that in customary use in the area and is so specified in the budgets. In area H in northeast Montana, a few operators do apply fertilizer but its use is so limited no costs are included in area H budgets for this item.

Power and Equipment

The variable cost of power and equipment includes the fuel, lubricants, and repairs for tractors, self-propelled farm machinery and motor vehicles. Costs for motor vehicles represent the proportion of motor vehicle expense use attributable to a particular crop.

Insurance

In most areas, farmers carry insurance as protection from crop failures. This insurance is commonly provided by the Federal Crop Insurance Corporation (FCIC). In the Montana areas where hail damage to crops is frequent, many farmers carry hail insurance in addition to FCIC insurance.

Miscellaneous and Supplies

This cost item includes a variety of miscellaneous expenses such as tools, shop equipment, and that portion of the telephone and electricity used directly in production of the crop.

Interest Charge

All budgets include an interest charge on all preharvest expenses except labor and seed. Depending on the crop and area, it was assumed that this money would be used 6 to 8 months at a rate of 7.5 or 8 percent per annum.

Grain Storage

Although grain storage costs are difficult to estimate, they are included in the budgets because in many cases storage contributes substantially to the total cost. The difficulty arises in determining the proportion of grain held in commercial and on-farm storage and the proportion sold immediately after harvesting. In these budgets, it was assumed that all grain would be stored and that the type of storage selected varied by the method most commonly used in the area. The type of storage--farm or commercial--is indicated on each budget.

Harvest Costs

In many areas, the harvested acreage is less than the planted acreage due to hail, drought, and other crop hazards. This relationship is reflected in the two harvest cost figures shown in each budget.

Prices and Yields

The price and yield figures used in the budgets were those expected for 1970, assuming normal price trends and weather conditions.

ENTERPRISE BUDGETS

The budget data for the major crops in the Northwest region are presented in two sets of tables. First, summary tables are shown indicating the yields per planted and harvested acre, the total variable cost, and the total variable cost per bushel or unit produced. Following these summary tables are individual budgets for all crops (tables 5-35). These budgets show a detailed itemization of costs for each crop.

Wheat

The wheat summaries are shown in tables 1-2 and the crop budgets in tables 5-19. Table 1 summarizes the winter wheat budgets. Disregarding the irrigated acreage, the yields per planted acre range from 25.0 in area H to 58.2 bushels in area C, and the variable cost per bushel ranges from $0.40 in area D to $0.61 in areas H. In the dryland areas, the average variable cost per bushel is about $0.50. In area D, the variable cost per bushel is considerably lower than for the other dryland areas, due mostly to the absence of miscellaneous expenses and crop insurance cost in the budget (table 9).

Table 2 is a summary of the durum and other spring wheat budgets that are presented in tables 14-19. Expected yields of the spring wheats range from 22.5 to 32.6 bushels per planted acre. Variable cost ranges from $0.54 to $0.77 per bushel, with the average about $0.65 per bushel. In all areas where both winter and spring varieties are raised, the per bushel cost of producing spring wheat exceeds that of winter varieties. In some areas this difference occurs because an additional cultivation of the seedbed is required for spring wheat. In other areas, the per acre costs of raising spring and winter wheat are about the same. However, since spring wheat ordinarily yields less per acre than winter wheat, its cost is higher on a per bushel basis.

Barley

Barley yields and costs are summarized in table 3; barley budgets are shown in tables 20-29. When irrigated areas are ~~included,~~ excluded yields range from 29.0 to 50.8 bushels per planted acre; costs per bushel range from $0.38 to $0.61, with the median about $0.50.

Other Crops

Montana accounts for virtually all the flaxseed produced in the Northwest region, yet the amount is minor in comparison with wheat and barley. As shown in table 4, the yields range from 6.5 to 8.0 bushels per planted acre, and the variable costs range from ~~$1.85~~ 1.64 to ~~$2.01~~ 1.94 per bushel.

Montana is the source of most of the oats produced in the Northwest region. About half of this acreage is cut for hay. However, in this report budgets are presented for oats planted for grain only. Yields per planted acre vary between 29.0 bushels in area H to 36.2 bushels in area G; variable costs per bushel range from ~~$0.45~~ 46 in area H to ~~$0.46~~ 36 in area G (table 4). Yields per planted acre were estimated by assuming that oat acreage planted for grain would have about the same rate of abandonment as wheat and barley.

Yield and variable cost data for rye and peas are summarized in table 4. The more detailed budgets for rye and peas are in tables 34 and 35, respectively. Although a small amount of rye is produced in most of the study areas in the region, it is a significant proportion of total grain production in area A only; therefore, only one rye budget was included in the report.

Dry peas are raised almost exclusively in the wheat-pea area of Idaho and Washington (area C), where they contribute substantially to total farm revenue. Peas are raised in rotation with cereal crops and are usually seeded after wheat. Yields average 18.5 hundredweight per acre, and variable costs per hundredweight are $1.68, as shown in table 4.

Table 1.--Summary of production and variable costs for winter wheat in the Northwest regions (wheat-fallow unless otherwise specified)

Area	Yield		Total variable cost	
	Per planted acre	Per harvested acre	Per planted acre	Per bushel
	Bushels		Dollars	
Washington				
Area A	32.5	35.0	15.57	0.48
Oregon-Washington				
Area B	39.4	41.5	19.31	.49
Idaho-Washington				
Area C	58.2	60.0	32.07	.55
Area C 1/	48.0	49.5	27.58	.57
Idaho				
Area D	29.0	30.5	11.70	.40
Area E 2/	82.0	82.0	73.75	.90
Area F 2/	93.0	93.0	79.69	.86
Montana				
Area G	33.5	35.3	19.09	.57
Area H	25.0	26.3	15.29	.61

1/ This reflects the yields and variable costs for winter wheat after peas or grain.

2/ This wheat is raised on irrigated land.

Table 2.--Summary of production and variable costs for durum and other spring wheat in the Northwest region

Area	Yield		Total variable cost	
	Per planted acre	Per harvested acre	Per planted acre	Per bushel
	Bushels		Dollars	
		Durum wheat		
Montana				
Area G	25.3	26.4	19.56	0.77
Area H	22.5	23.4	15.53	.69
		Other spring wheat		
Washington				
Area A	26.9	28.0	14.88	.55
Washington-Oregon				
Area B	32.6	34.0	17.51	.54
Montana				
Area G	25.5	26.6	19.58	.77
Area H	22.5	23.4	14.85	.66

Table 3.--Summary of production and variable costs for barley in the Northwest region

Area	Yield		Total variable cost	
	Per planted acre	Per harvested acre	Per planted acre	Per bushel
	Bushels		Dollars	
Washington				
Area A[1/]	29.5	31.0	14.52	0.49
Oregon-Washington				
Area B[2/]	33.0	34.0	16.68	.51
Area B[1/]	40.3	42.0	17.62	.44
Idaho-Washington				
Area C[3/]	50.8	54.0	20.71	.41
Area C[4/]	44.1	45.5	23.55	.53
Idaho				
Area D[2/]	33.0	34.7	12.61	.38
Area E[5/]	83.0	83.0	73.10	.88
Area F[5/]	93.0	93.0	77.64	.83
Montana				
Area G[1/]	29.0	30.5	17.59	.61
Area H[1/]	29.0	30.2	14.54	.50

1/ Spring barley
2/ Winter barley
3/ Winter barley after peas
4/ Spring barley after grain
5/ Irrigated winter barley

Table 4.--Summary of production and variable costs for flax, oats, rye, and peas in the Northwest region

Area	Yield		Total variable cost	
	Per planted acre	Per harvested acre	Per planted acre	Per bushel
	Bushels		Dollars	
		Flax		
Montana				
Area G	8.0	8.8	13.11	1.64
Area H	6.5	7.1	12.96	1.99
		Oats		
Montana				
Area G	36.2	38.1	14.26	.39
Area H	29.0	30.5	13.46	.46
		Rye		
Washington				
Area A	28.5	30.0	13.96	.49
		Peas		
	Hundredweights			Per cwt.
Idaho-Washington				
Area C	18.5	18.5	31.13	1.68

Table 5.--Winter wheat after fallow: Estimated inputs and variable costs for low productivity wheat area of central and northcentral Washington, area A

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.85	1.70	1.45
Seed	Bu.	.9	1.98	1.78
Fertilizer:				
Available nitrogen	Lbs.	50.0	.08	4.00
Available sulfur (10 percent coverage)	do.	11.0	.115	.13
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.15
Equipment (lubricants and repairs)	do.	1.0	---	.52
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.22
Herbicides, 2-4 D (75 percent coverage)	Lbs.	.5	.98	.37
Insurance, hail and fire	$100	.43	.42	.18
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.30
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.26
Total preharvest costs	do.	1.0	---	10.36
Harvest costs:				
Labor:				
Regular	Hr.	.60	1.70	1.02
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.25
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.45
Grain storage, commercial	Bu.	35.0	.084	2.94
Total harvest cost per harvested acre	Acre	1.0	---	5.66
Total harvest cost per planted acre (92 percent harvested)	do.	1.0	---	5.21
Total variable cost per planted acre	do.	1.0	---	15.57

Yield per planted acre 32.5 bushels
Yield per harvested acre 35.0 bushels

Table 6.--Winter wheat after fallow: Estimated inputs and variable costs for the high productivity wheat area of central and southcentral Washington, area B

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.87	1.70	1.48
Seed	Bu.	1.1	1.98	2.18
Fertilizer:				
Available nitrogen	Lbs.	65	.08	5.20
Available sulfur (5 percent coverage)	do.	10	.11	.06
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.69
Equipment (lubricants and repairs)	do.	1.0	---	.47
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.24
Herbicides:				
2-4 D (annual weeds)	Lbs.	.75	.98	.74
2-4 D (perennial weeds, 10 percent coverage)	do.	2.0	.72	.14
Insurance, hail and fire	$100	.50	.42	.21
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.37
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.34
Total preharvest costs	do.	1.0	---	13.12
Harvest costs:				
Labor:				
Regular	Hr.	.66	1.70	1.12
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.42
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.49
Grain storage, commercial	Bu.	41.5	.084	3.49
Total harvest cost per harvested acre	Acre	1.0	---	6.52
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	6.19
Total variable cost per planted acre	do.	1.0	---	19.31

Yield per planted acre 39.4 bushels
Yield per harvested acre 41.5 bushels

Table 7.--Winter wheat after fallow: Estimated inputs and variable costs for the wheat-pea area of Idaho and Washington, area C

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	1.42	1.70	2.41
Seed	Bu.	1.12	1.98	2.22
Fertilizer:				
Available nitrogen	Lbs.	95.0	.08	7.60
Available sulfur	do.	15.0	.11	1.65
Available phosphate (25 percent coverage)	do.	30.0	.13	.98
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.66
Equipment (lubricants and repairs)	do.	1.0	---	.59
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.40
Herbicides:				
Diyron (33 percent coverage)	Lbs.	1.25	5.00	2.06
2-4 D (annual weeds, 75 percent coverage)	do.	1.5	1.72	1.94
2-4 D (perennial weeds, 25 percent coverage)	do.	2.0	.72	.36
Insurance, hail and fire	$100	.86	.42	.36
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.69
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.69
Total preharvest costs	do.	1.0	---	23.61
Harvest costs:				
Labor:				
Regular	Hr.	.86	1.70	1.46
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.39
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.83
Grain storage, commercial	Bu.	60.0	.084	5.04
Total harvest cost per harvested acre	Acre	1.0	---	8.72
Total harvest cost per planted acre (97 percent harvested)	do.	1.0	---	8.46
Total variable cost per planted acre	do.	1.0	---	32.07

Yield per planted acre 58.2 bushels
Yield per harvested acre 60.0 bushels

Table 8.--Winter wheat after peas or grain: Estimated inputs and variable costs for the wheat-pea area of Idaho and Washington, area C

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.84	1.70	1.43
Seed	Bu.	1.12	1.98	2.22
Fertilizer:				
Available nitrogen	Lbs.	85.0	.08	6.80
Available phosphate (25 percent coverage)	do.	30.0	.13	.98
Available sulfur	do.	15.0	.11	1.65
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.03
Equipment (lubricants and repairs)	do.	1.0	---	.30
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.22
Herbicides:				
2-4 D (75 percent coverage)	Lbs.	1.5	1.72	1.94
Diyron (33 percent coverage)	do.	1.25	5.00	2.06
Insurance, hail, and fire	$100	.75	.42	.32
Miscellaneous (tools, electricity, telephone, etc.)	Acre	1.0	---	.69
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.60
Total preharvest costs	do.	1.0	---	20.24
Harvest costs:				
Labor:				
Regular	Hr.	.78	1.70	1.33
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.39
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.69
Grain storage, commercial	Bu.	49.5	.084	4.16
Total harvest cost per harvested acre	Acre	1.0	---	7.57
Total harvest cost per planted acre (97 percent harvested)	do.	1.0	---	7.34
Total variable cost per planted acre	do.	1.0	---	27.58

Yield per planted acre 48.0 bushels
Yield per harvested acre 49.5 bushels

Table 9.--Winter wheat after fallow: Estimated inputs and variable costs for southeast Idaho, area D

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	1.1	1.70	1.87
Seed, 100 percent purchased	Lbs.	40.0	.042	1.68
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.77
Equipment (lubricants and repairs)	do.	1.0	---	.60
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.69
Herbicides, 2-4 D (custom hired)	do.	.4	1.90	.76
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.14
Total preharvest costs	do.	1.0	---	7.51
Harvest costs:				
Labor:				
Regular	Hr.	.17	1.70	.29
Hired	do.	.42	1.70	.71
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.55
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.32
Auger repairs	do.	1.0	---	.01
Grain storage, farm	Bu.	30.5	.05	1.53
Total harvest cost per harvested acre	Acre	1.0	---	4.41
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	4.19
Total variable cost per planted acre	do.	1.0	---	11.70

Yield per planted acre 29.0 bushels
Yield per harvested acre 30.5 bushels

Table 10.--Winter wheat (irrigated): Estimated inputs and variable costs for southcentral Idaho, area E

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	5.8	1.70	9.86
Hired	do.	5.4	1.70	9.18
Seed	Lbs.	100.0	.047	4.70
Fertilizer:				
Available nitrogen	do.	48.0	.08	3.84
Available phosphate	do.	27.0	.08	2.16
Application (custom)	Acre	1.0	---	1.75
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	do.	1.0	---	7.88
Equipment (lubricants and repairs)	do.	1.0	---	11.64
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	2.50
Irrigation water and ditch maintenance	do.	1.0	---	2.91
Interest on operating capital (6 months at 7.5 percent)	do.	1.0	---	1.23
Total preharvest costs	do.	1.0	---	57.65
Harvest costs:				
Custom hire:				
Combining	do.	1.0	---	8.00
Hauling	do.	1.0	---	4.00
Grain storage, farm	Bu.	82.0	.05	4.10
Total harvest cost per harvested acre	Acre	1.0	---	16.10
Total harvest cost per planted acre (100 percent harvested)	do.	1.0	---	16.10
Total variable cost per planted acre	do.	1.0	---	73.75

Yield per planted acre 82.0 bushels
Yield per harvested acre 82.0 bushels

Table 11.--Winter wheat (irrigated): Estimated inputs and variable costs for southwest and southeast Idaho, area F

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	5.1	1.70	8.67
Hired	do.	5.0	1.70	8.50
Seed	Lbs.	150.0	.047	7.05
Fertilizer:				
Available nitrogen	do.	55.0	.08	4.40
Available phosphate	do.	30.0	.08	2.40
Application (custom)	Acre	1.0	---	2.00
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	do.	1.0	---	9.51
Equipment (lubricants and repairs)	do.	1.0	---	2.69
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	3.60
Irrigation:				
Gravity flow water	do.	1.0	---	8.00
Ditch maintenance	do.	1.0	---	2.40
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	1.31
Total preharvest cost	do.	1.0	---	60.53
Harvest costs:				
Custom hire:				
Combining	do.	1.0	---	8.00
Hauling	do.	93.0	.07	6.51
Grain storage, farm	Bu.	93.0	.05	4.65
Total harvest cost per harvested acre	Acre	1.0	---	19.16
Total harvest cost per planted acre (100 percent harvested)	do.	1.0	---	19.16
Total variable cost per planted acre	do.	1.0	---	79.69

Yield per planted acre 93.0 bushels
Yield per harvested acre 93.0 bushels

Table 12.--Winter wheat after fallow: Estimated inputs and variable costs for northcentral and southcentral Montana, area G

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.6	1.60	.96
Hired	do.	.3	1.60	.48
Seed	Bu.	.85	2.00	1.70
Fertilizer:				
Available nitrogen	Lbs.	13.0	.07	.91
Available phosphate	do.	34.0	.07	2.38
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.00
Equipment (lubricants and repairs)	do.	1.0	---	.23
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.45
Herbicides, 2-4 D (68 percent coverage)	do.	1.0	---	.95
Insurance, FCIC and hail	do.	1.0	---	1.40
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	1.22
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.51
Total preharvest cost	do.	1.0	---	13.19
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants and repairs)	Acre	.6	1.00	.60
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.61
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	.47
Custom hire:				
Combining	do.	.4	4.50	1.80
Grain storage, farm	Bu.	35.3	.05	1.77
Total harvest cost per harvested acre	Acre	1.0	---	6.21
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	5.90
Total variable cost per planted acre	do.	1.0	---	19.09

Yield per planted acre 33.5 bushels
Yield per harvested acre 35.3 bushels

Table 13.--Winter wheat after fallow: Estimated inputs and variable costs for northeastern Montana, area H.

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.6	1.60	.96
Hired	do.	.3	1.60	.48
Seed	Bu.	1.1	2.00	2.20
Power and equipment:				
Tractor (fuel, lubricants and repairs)	Acre	1.0	---	2.02
Equipment (lubricants and repairs)	do.	1.0	---	.19
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.37
Herbicides: 1/				
2-4 D (57 percent coverage)	do.	1.0	---	.70
Insurance, FCIC and hail	do.	1.0	---	1.40
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	1.62
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.34
Total preharvest cost	do.	1.0	---	10.28
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants and repairs)	Acre	.78	1.00	.78
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.58
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	.64
Custom hire:				
Combining	do.	.22	4.50	.99
Grain storage, farm	Bu.	26.3	.05	1.32
Total harvest cost per harvested acre	Acre	1.0	---	5.27
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	5.01
Total variable cost per planted acre	do.	1.0	---	15.29

Yield per planted acre 25.0 bushels
Yield per harvested acre 26.3 bushels

1/ Of this acreage 27 percent was custom applied.

Table 14.--Durum wheat after fallow: Estimated inputs and variable costs for northcentral and southcentral Montana, area G

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	1.0	2.10	2.10
Fertilizer:				
Available nitrogen	Lbs.	13.0	.07	.91
Available phosphorus	do.	34.0	.07	2.38
Power and equipment:				
Tractor (fuel, lubricants and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.23
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.45
Herbicides:				
2-4 D (68 percent coverage)	do.	1.0	---	.95
Insurance, FCIC and hail	do.	1.0	---	1.40
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	1.22
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.51
Total preharvest cost	do.	1.0	---	14.03
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.6	1.00	.60
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.61
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	.47
Custom hire:				
Combining	do.	.4	4.50	1.80
Grain storage, farm	Bu.	26.4	.05	1.32
Total harvest cost per harvested acre	Acre	1.0	---	5.76
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	5.53
Total variable cost per planted acre	do.	1.0	---	19.56

Yield per planted acre 25.3 bushels
Yield per harvested acre 26.4 bushels

Table 15.--Durum wheat after fallow: Estimated inputs and variable costs for northeastern Montana, area H

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	1.0	2.10	2.10
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.19
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.37
Herbicides:[1/]				
2-4 D (57 percent coverage)	do.	1.0	---	.70
Insurance, FCIC and hail	do.	1.0	---	1.40
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	1.62
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.35
Total preharvest cost	do.	1.0	---	10.61
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.78	1.00	.78
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.58
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	.64
Custom hire:				
Combining	do.	.22	4.50	.99
Grain storage, farm	Bu.	23.4	.05	1.17
Total harvest cost per harvested acre	Acre	1.0	---	5.12
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	4.92
Total variable cost per planted acre	do.	1.0	--	15.53

Yield per planted acre 22.5 bushels
Yield per harvested acre 23.4 bushels

1/ Of this acreage 27 percent was custom applied.

Table 16.--Spring wheat after fallow: Estimated inputs and variable costs for central and northcentral Washington, area A

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.92	1.70	1.56
Seed	Bu.	1.17	2.16	2.53
Fertilizer:				
Available nitrogen	Lbs.	33.0	.075	2.48
Power and equipment:				
Tractor (fuel, lubricants and repairs)	Acre	1.0	---	1.73
Equipment (lubricants and repairs)	do.	1.0	---	.52
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.24
Herbicides:				
2-4 D (75 percent coverage)	Lbs.	.5	.98	.37
Insurance, hail and fire	$100	.35	.42	.15
Miscellaneous (tools, electricity, telephone, etc.)	Acre	1.0	---	.30
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.22
Total preharvest costs	do.	1.0	---	10.10
Harvest costs:				
Labor:				
Regular	Hr.	.59	1.70	1.00
Power and equipment:				
Combine (fuel, lubricants and repairs)	Acre	1.0	---	1.25
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.38
Grain storage, commercial	Bu.	28.0	.084	2.35
Total harvest cost per harvested acre	Acre	1.0	---	4.98
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	4.78
Total variable cost per planted acre	do.	1.0	---	14.88

Yield per planted acre 26.9 bushels
Yield per harvested acre 28.0 bushels

Table 17.--Spring wheat after fallow: Estimated inputs and variable costs for central and southcentral Washington, area B

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.96	1.70	1.63
Seed	Bu.	1.23	2.16	2.66
Fertilizer:				
Available nitrogen	Lbs.	50.0	.075	3.75
Available sulfur (20 percent coverage)	do.	11.0	.115	.25
Power and equipment:				
Tractor (fuel, lubricants and repairs)	Acre	1.0	---	1.83
Equipment (lubricants and repairs)	do.	1.0	---	.48
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.25
Herbicides:				
2-4 D	Lbs.	.5	.98	.49
Insurance, hail and fire	$100	.4	.42	.17
Miscellaneous (tools, electricity, telephone, etc.)	Acre	1.0	---	.37
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.28
Total preharvest costs	do.	1.0	---	12.16
Harvest costs:				
Labor:				
Regular	Hr.	.62	1.70	1.05
Power and equipment:				
Combine (fuel, lubricants and repairs)	Acre	1.0	---	1.25
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.41
Grain storage, commercial	Bu.	34.0	.084	2.86
Total harvest cost per harvested acre	Acre	1.0	---	5.57
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	5.35
Total variable cost per planted acre	do.	1.0	---	17.51

Yield per planted acre 32.6 bushels
Yield per harvested acre 34.0 bushels

Table 18.--Spring wheat after fallow: Estimated inputs and variable costs for northcentral and southcentral Montana, area G

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	1.0	2.10	2.10
Fertilizer:				
Available nitrogen	Lbs.	13.0	.07	.91
Available phosphorus	do.	34.0	.07	2.38
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.23
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.45
Herbicides:				
2-4 D (68 percent coverage)	do.	1.0	---	.95
Insurance, FCIC and hail	do.	1.0	---	1.40
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	1.22
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.52
Total preharvest cost	do.	1.0	---	14.04
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants and repairs)	Acre	.6	1.00	.60
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.61
Miscellaneous (tools, electricity, telephone, etc.)	do.	1.0	---	.47
Custom hire:				
Combining	do.	.4	4.50	1.80
Grain storage, farm	Bu.	26.6	.05	1.33
Total harvest cost per harvested acre	Acre	1.0	---	5.77
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	5.54
Total variable cost per planted acre	do.	1.0	---	19.58

Yield per planted acre 25.5 bushels
Yield per harvested acre 26.6 bushels

Table 19.--Spring wheat after fallow: Estimated inputs and variable costs for northeastern Montana, area H

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed (24 percent purchased)	Bu.	1.0	2.10	2.10
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.19
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.37
Herbicides:[1/]				
2-4 D (57 percent coverage)	do.	1.0	---	.70
Insurance, FCIC and hail	do.	1.0	---	1.40
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.98
Interest on operating expenses (8 months at 8 percent)	do.	1.0	.31	.31
Total preharvest cost	do.	1.0	---	9.93
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.78	1.00	.78
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.58
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.64
Custom hire:				
Combining	do.	.22	4.50	.99
Grain storage, farm	Bu.	23.4	.05	1.17
Total harvest cost per harvested acre	Acre	1.0	---	5.12
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	4.92
Total variable cost per planted acre	do.	1.0	---	14.85

Yield per planted acre 22.5 bushels
Yield per harvested acre 23.4 bushels

1/ Of this acreage 27 percent was custom applied.

Table 20.--Spring barley after fallow: Estimated inputs and variable costs for central and northcentral Washington, area A

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.92	1.70	1.56
Seed	Bu.	1.46	1.49	2.18
Fertilizer:				
Available nitrogen	Lbs.	33.0	.075	2.48
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.71
Equipment (lubricants, and repairs)	do.	1.0	---	.53
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.24
Herbicides:				
2-4 D (75 percent coverage)	Lbs.	.5	.98	.37
Insurance, hail and fire	$100	.30	.42	.13
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.23
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.21
Total preharvest costs	do.	1.0	---	9.64
Harvest costs:				
Labor:				
Regular	Hr.	.59	1.70	1.00
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.25
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.38
Grain storage, commercial	Bu.	31.0	.081	2.51
Total harvest cost per harvested acre	Acre	1.0	---	5.14
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	4.88
Total variable cost per planted acre	do.	1.0	---	14.52

Yield per planted acre 29.5 bushels
Yield per harvested acre 31.0 bushels

Table 21.--Winter barley after fallow: Estimated inputs and variable costs for central and southcentral Washington, area B

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.87	1.70	1.48
Seed	Bu.	1.46	1.49	2.18
Fertilizer:				
Available nitrogen	Lbs.	55.0	.075	4.13
Available sulfur (5 percent coverage)	do.	10.0	.115	.06
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.21
Equipment (lubricants, and repairs)	do.	1.0	---	.49
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.25
Herbicides:				
2-4 D (Annual weeds)	Lbs.	.75	.98	.74
2-4 D (Perennial weeds, 10 percent coverage)	do.	2.0	.72	.14
Insurance, hail and fire	$100	.50	.42	.21
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.37
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.29
Total preharvest costs	do.	1.0	---	11.55
Harvest costs:				
Labor:				
Regular	Hr.	.66	1.70	1.12
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.25
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.55
Grain storage, commercial	Bu.	42.0	.081	3.40
Total harvest cost per harvested acre	Acre	1.0	---	6.32
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	6.07
Total variable cost per planted acre	do.	1.0	---	17.62

Yield per planted acre 40.3 bushels
Yield per harvested acre 42.0 bushels

Table 22.--Spring barley after fallow: Estimated inputs and variable costs for central and southcentral Washington, area B

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	1.01	1.70	1.72
Seed	Bu.	1.46	1.49	2.18
Fertilizer:				
Available nitrogen	Lbs.	45.0	.075	3.38
Available sulfur (20 percent coverage)	do.	10.0	.115	.23
Power and Equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.83
Equipment (lubricants and repairs)	do.	1.0	---	.48
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.22
Herbicides:				
2-4 D	Lbs.	.5	.98	.49
Insurance, hail and fire	$100	.4	.42	.17
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.37
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.27
Total preharvest costs	do.	1.0	---	11.34
Harvest costs:				
Labor:				
Regular	Hr.	.62	1.70	1.05
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.25
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.46
Grain storage, commercial	Bu.	34.0	.081	2.75
Total harvest cost per harvested acre	Acre	1.0	---	5.51
Total harvest cost per planted acre (97 percent harvested)	do.	1.0	---	5.34
Total variable cost per planted acre	do.	1.0	---	16.68

Yield per planted acre 33.0 bushels
Yield per harvested acre 34.0 bushels

Table 23.--Winter barley after peas: Estimated inputs and variable costs for the wheat-pea area of Idaho and Washington, area C

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.90	1.70	1.53
Seed	Bu.	1.54	1.49	2.29
Fertilizer:				
Available nitrogen	Lbs.	54.0	.08	4.32
Available sulfur	do.	12.0	.11	1.32
Available phosphate (10 percent coverage)	do.	30.0	.13	.39
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.01
Equipment (lubricants and repairs)	do.	1.0	---	.29
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.24
Herbicides:				
2-4 D	Lbs.	.75	.98	.74
Insurance, hail and fire	$100	.5	.42	.21
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.69
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.35
Total preharvest costs	do.	1.0	---	13.38
Harvest costs:				
Labor:				
Regular	Hr.	.78	1.70	1.33
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.39
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.71
Grain storage, commercial	Bu.	54.0	.081	4.37
Total harvest cost per harvested acre	Acre	1.0	---	7.80
Total harvest cost per planted acre (94 percent harvested)	do.	1.0	---	7.33
Total variable cost per planted acre	do.	1.0	---	20.71

Yield per planted acre 50.8 bushels
Yield per harvested acre 54.0 bushels

Table 24.--Spring barley after grain: Estimated inputs and variable costs for the wheat-pea area of Idaho and Washington, area C

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	1.27	1.70	2.16
Seed	Bu.	1.54	1.49	2.29
Fertilizer:				
Available nitrogen	Lbs.	75.0	.08	6.00
Available sulfur	do.	12.0	.11	1.32
Available phospate (10 percent coverage)	do.	30.0	.13	.39
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.57
Equipment (lubricants and repairs)	do.	1.0	---	.56
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.37
Herbicides:				
2-4 D	Lbs.	.75	.98	.74
Insurance, hail and fire	$100	.5	.42	.21
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.69
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.44
Total preharvest costs	do.	1.0	---	16.74
Harvest costs:				
Labor:				
Regular	Hr.	.78	1.70	1.33
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.39
Truck and car (fuel, lubricants , and repairs)	do.	1.0	---	.61
Grain storage, commercial	do.	45.5	.081	3.69
Total harvest cost per harvested acre	do.	1.0	---	7.02
Total harvest cost per planted acre (97 percent harvested)	do.	1.0	---	6.81
Total variable cost per planted acre	do.	1.0	---	23.55

Yield per planted acre 44.1 bushels
Yield per harvested acre 45.5 bushels

Table 25.--Barley after fallow: Estimated inputs and variable costs for southwest Idaho, area D

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	1.34	1.70	2.28
Seed, 100 percent purchased	Bu.	1.0	1.37	1.37
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.27
Equipment (lubricants and repairs)	do.	1.0	---	.76
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.71
Herbicides:				
2-4 D (custom hire)	do.	.4	1.90	.76
Interest on operating expenses (6 months at 7.5 percent	do.	1.0	---	.17
Total preharvest costs	do.	1.0	---	8.32
Harvest costs:				
Labor:				
Regular operator	Hr.	.17	1.70	.29
Hired	do.	.42	1.70	.71
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.45
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.32
Auger repairs	do.	1.0	---	.01
Grain storage, farm	Bu.	34.7	.05	1.74
Total harvest cost per harvested acre	Acre	1.0	---	4.52
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	4.29
Total variable cost per planted acre	do.	1.0	---	12.61

Yield per planted acre 33.0 bushels
Yield per harvested acre 34.7 bushels

Table 26.--Barley (irrigated): Estimated inputs and variable costs for southcentral Idaho, area E

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	5.8	1.70	9.86
Hired	do.	5.4	1.70	9.18
Seed	Lbs	80.0	.05	4.00
Fertilizer:				
Available nitrogen	do.	48.0	.08	3.84
Available phosphate	do.	27.0	.08	2.16
Application, (custom)	Acre	1.0	---	1.75
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	do.	1.0	---	7.88
Equipment (lubricants and repairs)	do.	1.0	---	11.64
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	2.50
Irrigation, water and ditch maintenance	do.	1.0	---	2.91
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	1.23
Total preharvest costs	do.	1.0	---	56.95
Harvest costs:				
Custom hire:				
Combining	do.	1.0	---	8.00
Hauling	do.	1.0	---	4.00
Grain storage, farm	Bu.	83.0	.05	4.15
Total harvest cost per harvested acre	Acre	1.0	---	16.15
Total harvest cost per planted acre (100 percent harvested)	do.	1.0	---	16.15
Total variable cost per planted acre	do.	1.0	---	73.10

Yield per planted acre 83.0 bushels
Yield per harvested acre 83.0 bushels

Table 27.--Barley (irrigated): Estimated inputs and variable costs for southwest and southeast Idaho, area F

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	5.1	1.70	8.67
Hired	do.	5.0	1.70	8.50
Seed	Lbs	100.0	.05	5.00
Fertilizer:				
Available nitrogen	do.	55.0	.08	4.40
Available phosphate	do.	30.0	.08	2.40
Application (custom)	Acre	1.0	---	2.00
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	do.	1.0	---	9.51
Equipment (lubricants and repairs)	do.	1.0	---	2.69
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	3.60
Irrigation:				
Gravity flow water	do.	1.0	---	8.00
Ditch maintenance	do.	1.0	---	2.40
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	1.31
Total preharvest costs	do.	1.0	---	58.48
Harvest costs:				
Custom hire:				
Combining	do.	1.0	---	8.00
Hauling	do.	1.0	---	6.51
Grain storage, farm	Bu.	93.0	.05	4.65
Total harvest cost per harvested acre	Acre	1.0	---	19.16
Total harvest cost per planted acre (100 percent harvested)	do.	1.0	---	19.16
Total variable cost per planted acre	do.	1.0	---	77.64

Yield per planted acre 93.0 bushels
Yield per harvested acre 93.0 bushels

Table 28.--Barley after fallow: Estimated inputs and variable costs for northcentral and southcentral Montana, area G

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	1.3	1.10	1.43
Fertilizer:				
Available nitrogen	Lbs.	10.0	.07	.70
Available phosphorus	do.	25.0	.07	1.75
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.23
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.45
Herbicides, 2-4 D (68 percent coverage)	do.	1.0	---	.95
Insurance, FCIC and hail	do.	1.0	---	.90
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	1.22
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.45
Total preharvest costs	do.	1.0	---	11.96
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants and repairs)	Acre	.6	1.00	.60
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.61
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.47
Custom hire:				
Combining	do.	.4	4.40	1.76
Grain storage, farm	Bu.	30.5	.05	1.53
Total harvest cost per harvested acre	Acre	1.0	---	5.93
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	5.63
Total variable cost per planted acre	do.	1.0	---	17.59

Yield per planted acre 29.0 bushels
Yield per harvested acre 30.5 bushels

Table 29.--Barley after fallow: Estimated inputs and variable costs for northeastern Montana, area H

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	1.2	1.10	1.32
Power and equipment:				
Tractor (fuel, lubricants and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.19
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.37
Herbicides:1/				
2-4 D (57 percent coverage)	do.	1.0	---	.70
Insurance, FCIC and hail	do.	1.0	---	.90
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	1.62
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.32
Total preharvest cost	do.	1.0	---	9.30
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.78	1.00	.78
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.58
Miscellaneous	do.	1.0	---	.64
Custom hire:				
Combining	do.	.22	4.50	.99
Grain storage, farm	Bu.	30.2	.05	1.51
Total harvest cost per harvested acre	Acre	1.0	---	5.46
Total harvest cost per planted acre (96 percent harvested)	do.	1.0	---	5.24
Total variable cost per planted acre	do.	1.0	---	14.54

Yield per planted acre 29.0 bushels
Yield per harvested acre 30.2 bushels

1/ Of the acreage treated, 27 percent was custom applied.

Table 30.--Flax: Estimated inputs and variable costs for northcentral and southcentral Montana, area G

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	.7	2.60	1.82
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants, and repairs)	do.	1.0	---	.23
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.45
Herbicides:				
MCP	do.	1.0	---	.85
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	1.22
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.26
Total preharvest cost	do.	1.0	---	8.71
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.6	1.0	.60
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.61
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.47
Custom hire:				
Combining	do.	.4	4.40	1.76
Grain storage, farm	Bu.	8.8	.05	.44
Total harvest cost per harvested acre	Acre	1.0	---	4.84
Total harvest cost per planted acre (91 percent harvested)	do.	1.0	---	4.40
Total variable cost per planted acre	do.	1.0	---	13.11

Yield per planted acre 8.0 bushels
Yield per harvested acre 8.8 bushels

Table 31.--Flax: Estimated inputs and variable costs for northeastern Montana, Area H

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	.7	2.60	1.82
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.19
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.37
Herbicides:1/				
MCP (57 percent coverage)	do.	1.0	---	.88
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	1.62
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.28
Total preharvest cost	do.	1.0	---	9.04
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.78	1.00	.78
Truck and car (fuel, lubricants and repairs)	do.	1.0	---	.58
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.64
Custom hire:				
Combining	do.	.22	4.50	.99
Grain storage, farm	Bu.	7.1	.05	.36
Total harvest cost per harvested acre	Acre	1.0	---	4.31
Total harvest cost per planted acre (91 percent harvested)	do.	1.0	---	3.92
Total variable cost per planted acre	do.	1.0	---	12.96

Yield per planted acre 6.5 bushels
Yield per harvested acre 7.1 bushels

1/ Of this acreage, 27 percent was custom applied.

Table 32:--Oats: Estimated inputs and variable costs for northcentral and southcentral Montana, area G

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	2.0	.70	1.40
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants, and repairs)	do.	1.0	---	.23
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.45
Insurance, FCIC and hail	do.	1.0	---	.80
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	1.22
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.26
Total preharvest cost	do.	1.0	---	8.24
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.6	1.00	.60
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.61
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.47
Custom hire:				
Combining	do.	.4	4.50	1.80
Grain storage, farm	Bu.	38.1	.05	1.90
Total harvest cost per harvested acre	Acre	1.0	---	6.34
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	6.02
Total variable cost per planted acre	do.	1.0	---	14.26

Yield per planted acre 36.2 bushels
Yield per harvested acre 38.1 bushels

Table 33.--Oats: Estimated inputs and variable costs for northeastern Montana area H

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.8	1.60	1.28
Hired	do.	.3	1.60	.48
Seed	Bu.	1.8	.65	1.17
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	2.12
Equipment (lubricants and repairs)	do.	1.0	---	.19
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.37
Insurance, FCIC and hail	do.	1.0	---	.75
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	1.62
Interest on operating expenses (8 months at 8 percent)	do.	1.0	---	.27
Total preharvest cost	do.	1.0	---	8.25
Harvest costs:				
Labor:				
Regular	Hr.	.4	1.60	.64
Hired	do.	.2	1.60	.32
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	.78	1.00	.78
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.58
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.64
Custom hire:				
Combining	do.	.22	4.50	.99
Grain storage, farm	Bu.	30.5	.05	1.53
Total harvest cost per harvested acre	Acre	1.0	---	5.48
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	5.21
Total variable cost per planted acre	do.	1.0	---	13.46

Yield per planted acre 29.0 bushels
Yield per harvested acre 30.5 bushels

Table 34.--Rye after fallow: Estimated inputs and variable costs for central and northcentral Washington, area A

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	.92	1.70	1.56
Seed	Bu.	1.0	1.71	1.71
Fertilizer:				
Available nitrogen	Lbs.	33.0	.075	2.48
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.71
Equipment (lubricants, and repairs)	do.	1.0	---	.53
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.18
Herbicides:				
2-4 D (75 percent coverage)	Lbs.	.5	.98	.37
Insurance, hail and fire	$100	.23	.42	.10
Miscellaneous, (tools, electricity, telephone, etc.)	Acre	1.0	---	.29
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.21
Total preharvest cost	do.	1.0	---	9.14
Harvest costs:				
Labor:				
Regular	Hr.	.57	1.70	.97
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.25
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.33
Grain storage, commercial	Bu.	30.0	.084	2.52
Total harvest cost per harvested acre	Acre	1.0	---	5.07
Total harvest cost per planted acre (95 percent harvested)	do.	1.0	---	4.82
Total variable cost per planted acre	do.	1.0	---	13.96

Yield per planted acre 28.5 bushels
Yield per harvested acre 30.0 bushels

Table 35:--Peas after grain: Estimated inputs and variable cost for the wheat-pea area of Idaho and Washington, area C

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Regular	Hr.	1.19	1.70	2.02
Seed	Cwt.	1.75	6.10	10.67
Fertilizer:				
Available sulfer	Lbs.	15.0	.11	1.65
Power and equipment:				
Tractor (fuel, lubricants, and repairs)	Acre	1.0	---	1.58
Equipment (lubricants and repairs)	do.	1.0	---	.54
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.37
Pesticides:				
DDT (50 percent coverage)	do.	.5	2.50	1.25
Herbicides:				
Sinox (30 percent coverage)	do.	.3	2.10	.63
Avadex	do.	1.0	4.50	4.50
Miscellaneous, (tools, electricity, telephone, etc.)	do.	1.0	---	.69
Interest on operating expenses (6 months at 7.5 percent)	do.	1.0	---	.42
Total preharvest costs	do.	1.0	---	24.32
Harvest costs:				
Labor:				
Regular	Hr.	.78	1.70	1.33
Power and equipment:				
Combine (fuel, lubricants, and repairs)	Acre	1.0	---	1.39
Truck and car (fuel, lubricants, and repairs)	do.	1.0	---	.39
Grain storage, commercial	Cwt.	18.5	.20	3.70
Total harvest cost per harvested acre	Acre	1.0	---	6.81
Total harvest cost per planted acre (100 percent harvested)	do.	1.0	---	6.81
Total variable cost per planted acre	do.	1.0	---	31.13

Yield per planted acre 18.5 per cwt.
Yield per harvested acre 18.5 per cwt.

Table 36.--Counties by APAT Production Areas, Northwest Region

Northwest

Area A - Wash.

Adams
Benton
Douglas
Franklin
Grant
Klickitat
Yakima

Area B

Asotin (Wash.)
Garfield (Wash.)
Gilliam (Oreg.)
Lincoln (Wash.)
Morrow (Oreg.)
Sherman (Oreg.)
Qmatilla (Oreg.)
Walla Walla (Wash.)
Wasco (Oreg.)

Area C - Idaho

Benewah
Columbia (Wash.)
Idaho
Kootenai
Latah
Lewis
Nez Perce
Spokane (Wash.)
Whitman (Wash.)

Area D - Idaho

Bannock
Bear Lake
Bingham
Bonneville
Camas
Caribou
Cassia
Franklin
Fremont
Madison
Oneida

Area D--Cont. - Idaho

Power
Teton

Area G - Mont.

Blaine
Daniels
Fallon
McCone
Phillips
Richland
Roosevelt
Sheridan
Valley
Wibaux

Area H - Mont.

Big Horn
Carbon
Carter
Cascade
Chouteau
Custer
Dawson
Fergus
Garfield
Glacier
Golden Valley
Hill
Judith Basin
Liberty
Musselshell
Petroleum
Pondera
Powder River
Prairie
Rosebud
Stillwater
Sweet Grass
Teton
Toole
Treasure
Wheatland
Yellowstone